WHAT IS CLAIMED IS:

1. A head positioning method for positioning a head with respect to a disk by using an actuator including a voice coil motor, an arm fixed to the voice coil motor, and the head attached to the arm, the method comprising the steps of:

producing a disturbance compensation signal by estimating a magnitude of disturbance acting upon the actuator based on a driving signal for driving the actuator and a voltage signal indicating a voltage that is generated across the voice coil motor according to driving of the actuator;

producing a control signal by multiplying the disturbance compensation signal by a gain adjustment coefficient, which is a constant other than 1 or a variable that takes a value other than 1 at any point in time;

calculating a head position error based on a target position and a head position that is obtained by detecting, with the head, servo information recorded in advance on the disk, so as to produce a position control signal corresponding to the head position error; and

producing the driving signal by adding together the control signal and the position control signal.

2. The head positioning method of claim 1, wherein:

the gain adjustment coefficient is a variable; and

the gain adjustment coefficient is varied according to the head position error.

3. The head positioning method of claim 2, wherein the gain adjustment coefficient is increased over time.

4. The head positioning method of claim 2, wherein the gain adjustment coefficient is brought closer to a predetermined value over time.

5. The head positioning method of claim 2, wherein the gain adjustment coefficient is brought closer to 1 over time.

6. The head positioning method of claim 2, wherein the gain adjustment coefficient in a seek mode is set to be smaller than that in a following mode.

7. The head positioning method of claim 2, wherein when the head position error is greater than a predetermined threshold position error amount, the gain adjustment coefficient is set to be smaller than that when the head position error is less than or equal to the threshold position error amount.

8. The head positioning method of claim 7, wherein the gain adjustment coefficient is increased over time, starting from a point in time when the head position error transitions from being greater than the threshold position error amount to being less than or equal to the threshold position error amount.

9. The head positioning method of claim 7, wherein the threshold position error amount is smaller than twice a recording track pitch of the disk.

10. A disk apparatus, comprising:

an actuator including a voice coil motor, an arm fixed to the voice coil motor, and a head attached to the arm;

a driver for driving the actuator;

a voltage detector for outputting a voltage signal indicating a voltage that is generated across the voice coil motor when driving the actuator;

a disturbance estimator for producing a disturbance compensation signal by estimating a magnitude of disturbance acting upon the actuator based on a driving signal input to the driver and the voltage signal;

a position error detector for calculating a head position error based on a target position and a head position that is obtained by detecting, with the head, servo information recorded in advance on a disk;

a position controller for producing and outputting a position control signal corresponding to the head position error; and

a gain adjuster for producing a control signal by multiplying the disturbance compensation signal by a gain adjustment coefficient, which is a constant other than 1 or a variable that takes a value other than 1 at any point in time, and producing the driving signal by adding together the control signal and the position control signal.

11. The disk apparatus of claim 10, wherein:

the gain adjustment coefficient is a variable; and

the gain adjustor varies the gain adjustment coefficient according to the head position error.

12. The disk apparatus of claim 11, wherein the gain adjuster increases the gain adjustment coefficient over time.

13. The disk apparatus of claim 11, wherein the gain adjuster brings the gain adjustment coefficient closer to a predetermined value over time.

14. The disk apparatus of claim 11, wherein the gain adjuster brings the gain adjustment coefficient closer to 1 over time.

15. The disk apparatus of claim 11, wherein the gain adjuster sets the gain adjustment coefficient in a seek mode to be smaller than that in a following mode.

16. The disk apparatus of claim 11, wherein when the head position error is greater than a predetermined threshold position error amount, the gain adjuster sets the gain adjustment coefficient to be smaller than that when the head position error is less than or equal to the threshold position error amount.

17. The disk apparatus of claim 16, wherein the gain adjuster increases the gain adjustment coefficient over time, starting from a point in time when the head position error transitions from being greater than the threshold position error amount to being less than or equal to the threshold position error amount.

18. The disk apparatus of claim 16, wherein the threshold position error amount is smaller than twice a recording track pitch of the disk.